Amendments to the Specification

Please replace the first paragraph starting on page 1, line 6 with the following rewritten paragraph:

The present application is a divisional of allowed pending U.S. Patent Application S.N. 09/691,766, which was filed on October 18, 2000 which claims the benefit of U.S. Provisional Patent Application S.N. 60/232,928, filed September 15, 2000.

Please add the following new paragraph starting on Page 9, line 17:

Figure 11, which comprises the combination of Figures 11A, 11B and 11C, illustrates the steps of an exemplary communications method implemented in accordance with the invention.

Please replace the last paragraph starting on page 30, line 15, and add additional paragraphs so that the text immediately before the claims section reads as follows:

Numerous ~~addition~~ additional embodiments and variations of the above described methods and apparatus will be apparent to those skilled in the art in view of the above description of the present invention. Such methods and apparatus are to be considered within the invention described herein.

An exemplary communications method 1100 implemented in accordance with the present invention will now be described with regard to Figure 11 which comprises the combination of Figures 11A, 11B and 11C. The method may be used in a system including a first device, e.g., base station 502, a second device, e.g., a mobile station 504 and a third device, e.g., another mobile station 506, such a system is illustrated in Fig. 5.

The method 1100 beings at START node 1102 with the first step being performed in step 1106. In step 1106, first and second antennas of the first device 502, e.g., base station, are spaced at least one half a wavelength apart, wherein the wavelength is equal to C divided by fc, where C is the speed of light and fc is a carrier frequency used by the first device to transmit signals. In some embodiments N antennas are used where N is greater than two. Following step 1106, in step 1108, the second device 504, e.g., a first mobile station, is operated to measure the amplitude of a first signal received from the first device 502. Then in step 1110, the second device 506 is operated to transmit first communication channel condition information to the first device 502, said first communications channel condition information including the measured first signal amplitude information. The third device, e.g., second mobile station 506, is operated in step 1112 to measure the amplitude of a second signal received from the first device 502 and then, in step 114, to transmit second communication channel condition information to the first device, said second communication channel condition

information including the measured second signal amplitude information.

In step 1116, the first device 502 is operated to receive the first communications channel condition information regarding the condition of the first communications channel existing between the first device 502 and the second device 504, and to receive the second communications channel condition information regarding the condition of the second communications channel existing between the first device 502 and third device 506. Then, in step 1118 the first device 502 is operated to schedule data transmissions, e.g., to determine when to transmit data to the first and second devices 504, 506. In sub-step 1120 the first device determines, as a function of the first communications channel condition information, when to transmit data from the first device 502 to the second device 504. In sub-step 1122 the first device determines, as a function of the second communications channel condition information, when to transmit data from the first device 502 to the third device 506. Operation proceeds from scheduling step 1118 to step 1124 via connecting node 1123.

In step 1124, the first device 502 is operated to determine the rate at which to transmit data to the first device as a function of the first communications channel condition information. Then, in step 1126, the first device is operated to allocate bandwidth as a function of the determined data transmission rate. Step 1126 includes sub-steps 1128 and 1130. Sub-step 1128, is performed when the determine data transmission rate is a

first rate. In sub-step 1128, the fist device 502 allocates a first amount of bandwidth. Sub-step 1130 is performed when the determined data transmission rate is a second rate which is greater than the first rate. In sub-step 1130, the first device 502 allocates a second amount of bandwidth which is greater than the first amount of bandwidth.

Operation proceeds from bandwidth allocation step 1126 to power control step 1134. In step 1134, which includes sub-steps 1136 and 1138, the first device 502 controls the amount of power used to transmit data from the first device 502 to the second device 504 as a function of the determined data transmission rate. In sub-step 1128, which is performed when the determined data transmission rate is a first rate, a first amount of bandwidth is allocated. In sub-step 1130, which is performed when the determined data transmission rate is a second rate which is greater than the first rate, a second amount of bandwidth is allocated.

Operation proceeds from step 1126 to step 1134. In step 1134, which includes sub-steps 1136 and 1138, the first device controls the amount of power used to transmit data from the first device 502 to the second device 504 as a function of the determined data transmission rate. In sub-step 1136, which is performed when the determined data transmission rate is a first rate, a first amount of power is used to transmit data from the first device 502 to the second device 504. In sub-step 1138 which is performed when the determined data transmission rate is a second rate which is greater than

the first rate, a second amount of power is used to transmit data from the first device 502 to the second device 504.

Operation proceeds from step 1134 to step 1142 via connecting node 1140. In step 1142 the first device 502 is operated to transmit, using the plurality of N spaced antennas, the same data to the second device 504, where N is greater than one. Step 1142 includes sub-steps 1144, 1146 and 1148. In sub-step 1144 the first device 502 transmits from a first antenna in the plurality of N antennas a first data signal including the data to be transmitted. In sub-step 1146, the first device 502 uses a second antenna in the plurality of N antennas to transmit a second data signal including the same data as the first data signal. In sub-step 1148, the first device 502 varies the phase and/or relative amplitudes of the first and second data signals as a function of time while: 1) maintaining the combined average transmitted power of the first and second data signals at an almost constant value over the period of time during which the relative amplitudes of the first and second data signals are varied or 2) using a fixed average amount of power over at least one symbol period to transmit the combination of the first and second data signals.

The transmission process continues over time with operation proceeding from step 1142 back to step 1106 via connecting node C 1104.

Please replace the paragraph which is the Abstract beginning at page 50, line 3, with the following rewritten paragraph:

Methods and apparatus for scheduling mobile stations (MSs) to download data ~~to~~ and/or to control the rate of downloading to an MS from a base station (BS) as a function of downlink channel condition information are described. Artificial channel variations, which can be measured at the MS, and feedback to a BS for scheduling purposes, are introduced through the use of two or more transmitter antennas at a BS. Each of the antennas transmits a signal at the same frequency having the same information content, e.g., modulated data. However the signals are made to differ with time in their phase and/or amplitude <u>to introduce what appear to be channel variations to the MSs</u>. ~~Multiple signals having the same transmission frequency and information content are received and interpreted as a single composite signal by a receiving MS. The interaction of the received signals and the intentional variations introduced into the signals result an MS detecting different signal amplitudes and/or phases over time even when the total amount of power used to transmit the combination of the signals having the same information content remains constant with time. Data transmission rates are controlled in some embodiments as a function of channel conditions, e.g., the better the channel conditions the faster the transmission data rate used. By varying the data rate as a function of channel conditions and by preferring MSs with good channel conditions to those with bad channel conditions, improved overall throughput can~~

~~be achieved by a BS with regard to downlinks as compared to known systems.~~